

WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS  
PATENT OF THE UNITED STATES IS:

1. A method of communicating, comprising the steps  
of:

5 transmitting information from a first device to a  
second device;

receiving, by the second device, the information which  
has been transmitted;

10 determining, by the second device, a communication  
protocol utilized by the first device; and

parsing, by the second device, the information  
transmitted by the first device using the communication  
protocol which has been determined.

15 2. A method according to claim 1, wherein the  
determining step comprises:

determining the communication protocol by examining if  
the information which has been transmitted includes an  
identifier.

20 3. A method according to claim 2, wherein the  
determining step further comprises:

looking up the identifier in a data base to determine  
a communication protocol corresponding to the identifier.

4. A method according to claim 3, wherein the step of  
looking up comprises:

25 looking up the identifier in the data base to  
determine a format of a header of the transmission;

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parsing the header of the transmission using the  
format of the header which was determined; and

determining the communication protocol using  
information in the header which was parsed using the format  
of the header.

5 5. A method according to claim 1, wherein the  
determining step comprises:

determining the communication protocol by examining if  
the information which has been transmitted includes a  
communication protocol identifier.

10 6. A method according to claim 1, wherein the  
determining step comprises:

determining if the information which has been  
transmitted is arranged in a same format as a predetermined  
format.

15 7. A method according to claim 1, wherein the  
determining step comprises:

determining if the information which has been  
transmitted has a plurality of fields having a same format  
as one of a plurality of predetermined formats.

20 8. A method according to claim 4, wherein the  
determining step comprises:

determining if the information which has been  
transmitted has a plurality of fields having a same format  
as one of a plurality of predetermined formats by  
sequentially comparing the plurality of fields with the

plurality of predetermined formats in an order starting with a predetermined format which is most common.

9. A method according to claim 8, wherein the determining step comprises:

5 determining if the information which has been transmitted has a plurality of fields having a same format as one of a plurality of predetermined formats by sequentially comparing the plurality of fields with the plurality of predetermined formats in a generally descending order from most common format to least common format.

10 10. A method according to claim 9, further comprising the step of:

15 sorting the predetermined formats from most common format to least common format.

11. A method according to claim 1, wherein the transmitting step comprises:

transmitting the information from a business office device.

20 12. A method according to claim 1, wherein the transmitting step comprises:

transmitting the information from the first device which is a copier.

25 13. A method according to claim 1, wherein the transmitting step comprises:

transmitting the information from the first device which is a printer.

14. A method according to claim 1, wherein the transmitting step comprises:

transmitting the information from the first device which is a facsimile machine.

15. A method according to claim 1, wherein the transmitting step comprises transmitting the information from the first device which is a digital camera.

16. A method according to claim 6, wherein the step of determining examines said predetermined format which indicates values which must exist in order to determine if there is the same format.

17. A method according to claim 16, wherein the step of determining examines said predetermined format which indicates values of at least one of bits and bytes which must exist in order to determine if there is the same format.

18. A method according to claim 1, further comprising the step of:

looking up, after the step of determining, information of the communication protocol utilized by the first device in a data base containing a plurality of communication protocols,

wherein the parsing step comprises parsing the information transmitted by the first device using the information of the communication protocol determined in the step of looking up.

19. A system for communicating, comprising:

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a first device for transmitting information;  
a second device which receives the transmitted  
information from the first device, including:

5 means for determining a communication protocol  
utilized by the first device; and

means for parsing the information transmitted by  
the first device using the communication protocol which has  
been determined.

10 20. A system according to claim 19, wherein the means  
for determining comprises:

means for determining the communication protocol by  
examining if the information which has been transmitted  
includes an identifier.

15 21. A system according to claim 20, wherein the means  
for determining comprises: *a*

means for looking up the identifier in a data base to  
determine a communication protocol corresponding to the  
identifier.

20 22. A system according to claim 22, wherein the means  
for looking up comprises:

means for looking up the identifier in the data base  
to determine a format of a header of the transmission;

means for parsing the header of the transmission using  
the format of the header which was determined; and

25 means for determining the communication protocol using  
information in the header which was parsed using the format  
of the header.

23. A system according to claim 19, wherein the means for determining comprises:

means for determining the communication protocol by examining if the information which has been transmitted includes a communication protocol identifier.

24. A system according to claim 19, wherein the means for determining comprises:

means for determining if the information which has been transmitted is arranged in a same format as a predetermined format.

25. A system according to claim 19, wherein the means for determining comprises:

means for determining if the information which has been transmitted has a plurality of fields having a same format as one of a plurality of predetermined formats.

26. A system according to claim 22, wherein the means for determining comprises:

means for determining if the information which has been transmitted has a plurality of fields having a same format as one of a plurality of predetermined formats by sequentially comparing the plurality of fields with the plurality of predetermined formats in an order starting with a predetermined format which is most common.

27. A system according to claim 26, wherein the means for determining comprises:

means for determining if the information which has been transmitted has a plurality of fields having a same

format as one of a plurality of predetermined formats by sequentially comparing the plurality of fields with the plurality of predetermined formats in a generally descending order from most common format to least common format.

28. A system according to claim 27, further comprising:

means for sorting the predetermined formats from most common format to least common format.

29. A system according to claim 19, wherein: the first device is a business office device.

30. A system according to claim 19, wherein: the first device is a copier.

31. ~~32.~~ A system according to claim 19, wherein: the first device is a printer.

32. ~~33.~~ A system according to claim 19, wherein: the first device is a facsimile machine.

33. ~~34.~~ A system according to claim 19, wherein: the first device is a digital camera.

34. ~~35.~~ A system according to claim 24, wherein the means for determining comprises:

means for examining said predetermined format which indicates values which must exist in order to determine if there is the same format.

35. ~~36.~~ A system according to claim <sup>34</sup>~~35~~, wherein the means for determining comprises:

means for examining said predetermined format which indicates values of at least one of bits and bytes which must exist in order to determine if there is the same format.

5 36. 37. A system according to claim 19, wherein the second device further comprises:

means for looking up information of the communication protocol utilized by the first device in a data base containing a plurality of communication protocols,

10 wherein the means for parsing comprises means for parsing the information transmitted by the first device using the information of the communication protocol determined by the means for looking up.

15 37. 38. A method of diagnosing a first device by a second device which has an ability to diagnose different types of devices, comprising the steps of:

transmitting information from the first device to the second device;

20 receiving, by the second device, the information which has been transmitted;

determining, by the second device, a type of the first device;

25 parsing, by the second device, the information transmitted by the first device using the communication protocol which has been determined; and

diagnosing a condition of the first device by the second device using the information which has been parsed.



38. 39. A method according to claim <sup>37</sup>38, wherein the parsing step comprises:

parsing the information using one of a plurality of protocols which corresponds to a type of the device.

5 39. 40. A method according to claim <sup>38</sup>39, further comprising the step of:

selecting a communication protocol, used by the parsing step, from a plurality of communication protocols stored in a data base which defines a plurality of communication formats.

10 40. 41. A method according to claim <sup>39</sup>39, wherein the selecting step comprises:

selecting a communication protocol for a facsimile machine from the data base which contains communication protocols for both facsimile machines and copier machines.

15 41. 42. A method according to claim <sup>38</sup>39, wherein the selecting step comprises:

selecting a communication protocol for a copier machine from the data base which contains communication protocols for both facsimile machines and copier machines.

20 42. 43. A method according to claim <sup>37</sup>38, further comprising the step of:

controlling the first device by the second device by transmitting control information from the first device to the second device using the communication protocol which has been determined.

43. 44. A system for remotely diagnosing devices,  
comprising:

a first device which is remotely diagnosed, including:

means for transmitting information;

5 a second device for performing a remote diagnosis of  
the first device, including:

means for receiving the information which has  
been transmitted by the first device;

means for determining a type of the first device;

10 means for parsing the information transmitted by  
the first device using the communication protocol which has  
been determined; and

15 means for diagnosing a condition of the first  
device by the second device using the information which has  
been parsed.

44. 45. A system according to claim <sup>43</sup>44, wherein the means  
for parsing comprises:

20 means for parsing the information using one of a  
plurality of protocols which corresponds to a type of the  
device.

45. 46. A system according to claim <sup>44</sup>45, wherein the  
second device further comprises:

25 means for selecting a communication protocol, used by  
the means for parsing, from a plurality of communication  
protocols stored in a data base which defines a plurality  
of communication formats.

46. 47. A system according to claim <sup>45</sup>46, wherein the means for selecting comprises:

means for selecting a communication protocol for a facsimile machine from the data base which contains communication protocols for both facsimile machines and copier machines.

47. 48. A system according to claim <sup>45</sup>46, wherein the means for selecting comprises:

means for selecting a communication protocol for a copier machine from the data base which contains communication protocols for both facsimile machines and copier machines.

48. 49. A system according to claim <sup>43</sup>44, wherein the second device further comprises:

means for controlling the first device by the second device by transmitting control information from the first device to the second device using the communication protocol which has been determined.

49. 50. A method of controlling a first device by a second device which has an ability to control different types of devices, comprising the steps of:

determining, by the second device, a type of the first device;

determining, by the second device, a communication protocol utilized by the first device;

constructing, by the second device, a message containing an instruction for controlling the first device;

transmitting the message from the second device to the first device;

receiving, by the first device, the message transmitted by the second device; and

performing, by the first device, an operation in response to the message transmitted by the first device.

50. 51. A method according to claim <sup>49</sup>50, wherein the step of determining the communication protocol comprises:

determining the communication protocol from a plurality of protocols.

51. 52. A method according to claim <sup>50</sup>51, wherein the step of determining the communication protocol comprises:

determining the communication protocol from a plurality of protocols having different data formats.

52. 53. A method according to claim <sup>49</sup>50, wherein the step of performing an operation comprises:

transmitting information within a memory of the first device to the second device.

53. 54. A method according to claim <sup>49</sup>50, wherein the step of performing an operation comprises:

altering contents of a memory within the first device.

54. 55. A method according to claim <sup>49</sup>50, wherein the step of performing an operation comprises:

performing an electrical-mechanical operation within the first device.

55. 56. A method according to claim <sup>49</sup>50, wherein the step of performing an operation comprises:

performing an operation in the first device which is a facsimile machine.

56. 57. A method according to claim <sup>49</sup>50, wherein the step of performing an operation comprises:

5 performing an operation in the first device which is a copier machine.

57. 58. A method according to claim <sup>49</sup>50, wherein the step of performing an operation comprises:

10 performing an operation in the first device which is a printer.

58. 59. A system of controlling remote devices, comprising:

a second device for controlling a first device, including:

15 means for determining a type of the first device;

means for determining a communication protocol utilized by the first device;

means for constructing a message containing an instruction for controlling the first device; and

20 means for transmitting the message from the second device to the first device, and

the first device, comprising:

means for receiving the message transmitted by the second device; and

25 means for performing an operation in response to the message transmitted by the first device.

59. 60. A system according to claim <sup>58</sup>59, wherein the means for determining the communication protocol comprises:

means for determining the communication protocol from a plurality of protocols.

5 60. 61. A system according to claim <sup>59</sup>60, wherein the means for determining the communication protocol comprises:

means for determining the communication protocol from a plurality of protocols having different data formats.

10 61. 62. A system according to claim <sup>59</sup>59, wherein the means for performing an operation comprises:

means for transmitting information within a memory of the first device to the second device.

15 62. 63. A system according to claim <sup>58</sup>59, wherein the means for performing an operation comprises:

means for altering contents of a memory within the first device.

63. 64. A system according to claim <sup>58</sup>59, wherein the means for performing an operation comprises:

20 means for performing an electrical-mechanical operation within the first device.

64. 65. A system according to claim <sup>58</sup>59, wherein the first device is a facsimile machine.

65. 66. A system according to claim <sup>58</sup>59, wherein the first device is a copier machine.

25 66. 67. A system according to claim <sup>58</sup>59, wherein the first device is a printer.

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67. 68. A memory containing a data structure which stores information defining requirements for communications, comprising:

a data structure stored in said memory including:

5 a field for storing a byte number of a byte of a received communication; and

a field for storing a value which must appear in said byte.

68. 69. A memory according to claim <sup>67</sup>68, wherein:

10 said field for storing a value stores a range of said value.

69. <sup>67</sup>70. A memory according to claim <sup>67</sup>68, wherein said data structure further includes:

15 a field for storing a bit number of a bit of a received communication; and

a field for storing a value which must appear in said bit.

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